

RICHARDSON (M.H.)

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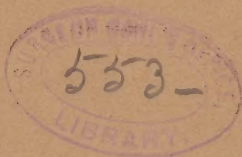
WITH REMARKS.

BY

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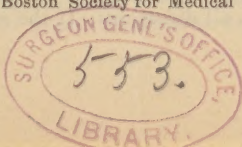
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CASES OF CHRONIC INTESTINAL OBSTRUCTION: WITH REMARKS.¹

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It is very difficult and often impossible exactly to determine the nature and situation of the lesion in cases of chronic obstruction. After middle age the chances favor very much the existence of a malignant stricture, usually though not always situated in the sigmoid flexure. In one case operated on by Dr. Homan at the Massachusetts General Hospital, the constricting ring was at the splenic flexure, and in another occurring in my own service the disease involved the ileo-cæcal valve. In another case, which I recently saw with Dr. Snow, of Newburyport, the ascending colon was involved some inches above the ileo-cæcal valve. With these exceptions, malignant obstructions, in my experience, have been situated in the sigmoid flexure. Occasionally a gradual closure of the intestinal canal depends upon causes other than cancer, and the obstruction may be located at any point. But in order to apply the appropriate treatment, it is not necessary to know the exact nature of the lesion. If complete obstruction exists, the course is clear: to prolong life, it is necessary in some manner to relieve the distended intestines. In most cases the disease, if malignant, will be found so extensive that only temporary relief can be offered by the formation of an artificial anus. At times, however, such a stricture is annular and confined to the inner coats of the bowel, conditions under which radical and permanent relief may be attempted by excision and suture. Whatever

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the lesion may be, an exact knowledge of its situation is of great importance to guide us in selecting a place for incision. It is impossible to determine this point by physical evidence, except rarely, because the tumor, even if a large one, may be entirely masked by the existing distention. If the stricture is annular and the disease not advanced, its presence cannot be made out by the most careful examination, even in a collapsed abdomen. We must, therefore, depend almost wholly upon the history of the case and the subjective symptoms, as the only means of forming a correct opinion. In most of the cases which I have seen there has been pain caused by spasmodic intestinal contractions. This is intermittent, and follows a variable course, but ends at the point of constriction. I have heard this symptom detailed so many times that I give it great value in selecting the site for opening the bowels. Inasmuch as the stricture is usually situated in the sigmoid flexure, the pain is generally described as running down into the left groin, ending in a certain fixed point which the patient indicates with his finger. With such a description of pain one is quite justified in opening the abdomen in the left groin. Occasionally, however, there is a large and movable sigmoid flexure, so that the stricture may be situated in the median line, or even on the right side. Another method of determining the site of the stricture is by the injection of fluid *per anum*. This method, however, is not absolutely conclusive. If situated at the ileo-cæcal valve or at the splenic flexure, a larger quantity of fluid may be injected than if it be at the sigmoid flexure. But it does not follow because one can inject a large amount of fluid that the stricture is situated high up. There may be a valve-action at the point of constriction which will allow the passage of fluid upward, but not downward. In doubtful cases I think it is well to make a median incision long enough to explore the abdomen with the hand in all directions. If the stricture is found

to the right or to the left the operation may be completed very intelligently through a second small incision. By this method we may also ascertain not only the situation of the lesion, but, with a full knowledge of its extent, complications and metastases, select the most appropriate operation. This plan was successfully adopted in one of my later cases, that of Mr. W., of Rockport. There is a very little, if any, additional danger, and the results are much more satisfactory.

My chief object in presenting this paper is to advise operations for relief in most cases of chronic intestinal obstruction. A policy of non-interference is advocated by many, on the ground that on the whole the sum of suffering is less. It seems to me that if we ever advise operation in hopeless disease, for the purpose of relieving suffering and prolonging life, we ought to urge such procedure in the cases under consideration. Life, useful, endurable, and even enjoyable, may be prolonged months or even years. When death comes, as far as I have been able to observe, it has been peaceful and without pain. In cases unrelieved by surgical art the suffering is very great. The pain and distress are constant, even under the influence of opiates. The great distention interferes with the thoracic viscera, and breathing becomes labored and painful. At first nothing can be taken by the mouth. Nausea follows, with persistent vomiting. The contents of the small intestine become regurgitated into the stomach, and are expelled by the mouth. Finally, if the patient has not succumbed to starvation and exhaustion, the foul and decomposed contents of the bowel reach the stomach and are vomited — a situation most loathsome and repulsive. If it is ever justifiable to perform tracheotomy in cases of obstruction to breathing for the purpose of giving a peaceful end, it is certainly quite as justifiable in cases of chronic intestinal obstruction. A rapid operation of moderate severity, almost always successful, gives immediate relief to pain: respiration becomes tranquil,

vomiting ceases, and the patient rapidly gains in health and strength. After a short time the artificial anus becomes well regulated and causes but little annoyance.

But we can go farther than operations for palliation in some cases. In several there was nothing except an annular stricture of the intestines. With the improvement in the technique of intestinal resection and the small mortality in non-septic cases, I think we can offer under certain conditions the hope of a permanent cure. In the cases of Prof. M., of Amherst, and Mrs. D., of Fitchburg, there was no evidence whatever of disease except in a constricting ring in the sigmoid flexure. I believe that the disease in these cases might have been excised with as great chance of permanent success as in cancer of the breast. The immediate danger from such an operation, of course, would have been much greater than in breast amputations, but the mortality would probably not exceed that of vaginal hysterectomy for uterine cancer. In many of the cases where the disease had invaded more than one coil of intestine, or where there was evident metastasis, the question of such an operation was not considered. Under such conditions, if there is no chance of a permanent cure, we may at least offer relief by palliation.

It is always important to explore before the obstruction has become complete, because it is very difficult indeed to get a clear idea of the existing conditions in the presence of great distention. Under such circumstances, as soon as the peritoneum is open the bowels should be emptied as much as possible by aspiration. This procedure, however, is not without danger. I have repeatedly seen faecal matter escape through the needle-wound made in the distended coil. The intestinal coats are so tense that they cannot slide by each other and prevent extravasation. The needle should be used very sparingly through the abdominal wall and a very small one selected. Too much confidence, how-

ever, should not be placed in the use of the needle. In chronic obstruction the intestinal contents have been churned into a yeasty, homogeneous mass. There are no large collections of gas to be emptied by aspiration, and the small needle becomes quickly clogged and useless.

I have included under the head of chronic obstruction all cases in which the symptoms have been gradual in their appearance, or in which the obstruction has been of more than a week's duration. Acute obstructions dependent upon the sudden closure of a fully patent bowel are so rapidly fatal, if unrelieved, that I have never known a patient to survive more than three or four days. To chronic obstruction, though finally complete, the patient gets accustomed, so that he may live many weeks with the intestinal canal totally occluded.

The following cases have been selected from a large number because they present the clinical features of most of the varieties of chronic obstruction. In one the diagnosis was beyond question, from the existence of certain rectal conditions. In most, however, there was no physical evidence of a positive character, so that the diagnosis was somewhat uncertain. In all my cases where I have operated, or examined post-mortem, with one exception the diagnosis of cancer was correct. In this case there was a band relieved by operation. In another case, that of a young man, cancer was not suspected, but found at the autopsy.

CASE I. On October 17, 1889, I saw Prof. R. H. M., aged fifty-four, of Amherst, in consultation with Dr. Fish, of Amherst, and Dr. Cooper, of Northampton. The personal and family history were exceptionally good. During the previous spring he began to be troubled with constipation, though previously the bowels had been in perfect order. For this he was treated by Dr. Fish. The movements were preceded by considerable pain in the left side. In July he had his first at-

tack of sharp pain, which was followed by faintness. After using a cathartic, the bowels were loose for some days, but he still had these twinges of pain in the left side. There were two subsequent attacks of similar character. The present attack began after the use of Carlsbad salts, and has been more severe than ever before. The pain has ended right in the middle, but has started as before in the left side. (The stricture was found, post-mortem, a little to the right of the umbilicus in a large sigmoid flexure.) Nothing has passed by rectum except small quantities of watery fluid and one small fæcal mass. There has been slow but not marked emaciation. The injection of twelve ounces of fluid by rectum through a tube introduced twelve and a half inches caused pain. There was no escape of gas. With the present attack there has been nausea and vomiting. The vomitus has been brownish and contains bile. There has been no other constitutional disturbance.

Examination. — A well-developed, well-nourished man. Pulse 100, temperature 99.5. Abdomen distended moderately. In the right lower quadrant there was more resistance than elsewhere. This region was tender and tympanitic, and suggested an enormously distended bowel. (It proved to be the caput cæci.) At a point to the right of the median line, a little below the umbilicus, the termination of the pain was located. Rectal and thoracic examination was negative; urine normal. Malignant stricture was strongly suspected, probably seated in the sigmoid flexure; and the question of operation submitted to the patient and friends.

October 21st, Dr. Fitz in consultation confirmed the above opinion, and advised exploration. There had been no passage whatever of gas or flatus since the 17th. An incision was made in the left lower quadrant parallel to Poupart's ligament, starting at the outer border of the rectus. A dark, tense tumor presented, the greater portion of which seemed to be situated towards the right, and continuous with the mass

previously described in the right lower quadrant. The distention was so great that the bowel looked almost gangrenous, being of dark chocolate color, with a greenish tinge. I supposed this to be the distended sigmoid flexure, above the obstruction. Nothing could be felt indicating the nature of the constriction. The distended gut was therefore brought into the wound and stitched to the abdominal parietes. This was accomplished only with difficulty, apparently because the greater portion was so far to the right. The bowel was immediately opened and there was a considerable escape of fæces, but by no means as much as was expected. This fact suggested the possibility that the bowel had been opened below the constriction. Recovery from the operation was rapid and complete. The fæcal discharges became more abundant, pain ceased, and there was much improvement in his general health. His appetite was voracious. He was able to resume his work to a limited extent at Amherst College. Death from exhaustion took place six months later.

At the autopsy I found a stricture in the sigmoid flexure. This was situated to the right of the umbilicus, the flexure being very large, and its mesentery long and loose. The disease was precisely where the stopping-point of pain had been described. The artificial anus had been made in the caput cœci, which had been drawn over to the left. There was a cancerous mass in the liver. The ascending, transverse and descending colons contained enormous fæcal masses. Prof. M. told me some months after the operation he had "never had any kind of pain. The discharges come with perfect ease and without pain. Life is endurable and even enjoyable."

It is remarkable that the adhesions in this case were strong enough to keep the cœcum to the left. An opening in the descending colon was intended, and it was supposed to be there until the autopsy. The artificial anus was quite as serviceable, however, and its position

had no subsequent bearing on the history. The situation of the constricting ring, the free mobility of the sigmoid flexure and absence of adhesions, even at the time of death, have suggested interesting questions as to the possibility of a complete resection at the time of operation. I think it might reasonably have been anticipated that a successful resection, with removal of the cancerous ring, would have prolonged life indefinitely. Such an operation would have been extremely difficult at the time because of the enormous dilatation of the bowel above the disease. This condition not only interferes very greatly with all explorations and manipulations, but it necessitates the suture of a recently distended gut with a collapsed one.

The proposed operation certainly has its limitations. One of these is that resection should not be undertaken except in a collapsed abdomen either before complete obstruction or secondary to the temporary relief and artificial evacuation through an intestinal fistula. Another method which was considered was that of intestinal anastomosis. This measure requires that there should be easy access to the bowel above and below the stricture, and is to be used only where the various mechanical devices for its performance can be securely applied. In this case anastomosis was impracticable. It might have been performed with the knowledge subsequently obtained; but I am convinced that the immediate danger would have been much greater than in the operation which was selected. The only successful cases of intestinal anastomosis in this community, as far as I am aware, are those of Drs. Homans and Conant. In Dr. Conant's cases the anastomosis was preceded by a complete resection of the cæcum for malignant disease. On the other hand, there have been several failures. I have never seen a case in which it seemed to me best to use this method.

CASE II. Mrs. A. F., aged thirty-seven, I saw in consultation with Dr. Rice, of Fitchburg, November

23, 1889. Personal history good. Her father died with a stoppage; mother living and well. There had been a miscarriage some weeks before. In August, while in apparent health, was taken with quite severe pain in the left inguinal region, running down into the left hip. This was accompanied by vomiting. There was no rise in temperature. The pain lasted two days, was severe, and associated with tenderness over the abdomen. For a week she did not pass gas, nor for two weeks fæcal matter, though there was constant tenesmus. At the end of two weeks there was free discharge of loose fæces. Before this attack there had been a severe diarrhœa, with bloody discharges and pain. About this time riding and jolting were painful. Three weeks ago the present attack began, with pain and constipation. "The pain starts in the left side all the time. It comes up and stops in the navel. It feels as if it would burst there. When the pain gets there, it will gurgle and make a noise. It never comes further than the navel. The bowels have been bloated more or less for a year, but they have been generally regular."

Examination. — A very large and lax abdomen, in which nothing could be felt by external examination. There was tenderness in the lower part, over the bladder, rather to the left side. Vaginal and rectal examination was negative. The general appearance was good, though there was some emaciation. No tumor could be felt, although a very thorough and satisfactory examination of all parts of the abdomen could be made. There were no constitutional symptoms, and no evidence of disease elsewhere.

Diagnosis. — Chronic intestinal obstruction, possibly of malignant origin. I did not advise exploration, because the symptoms had been so frequently relieved by medical treatment. The subsequent history will show that the disease might have been excised with the greatest ease, and with a strong probability of permanent cure.

February 8, 1890, was the time of my second examination. She went two weeks after my previous visit without any fæcal passage. At first gas began to escape, and then there were more abundant and satisfactory movements than at any time since the beginning of her illness. Her appetite returned, and she was able to be up and about the house. For a month there was no pain requiring morphia. In the middle of January she began to have pain in the same region as before, with nausea and slight fever; distention soon became general and excessive. There had been more or less constant vomiting, once or twice with fæcal odor.

The patient was apparently in great distress, with marked emaciation, sunken eyes and flushed cheeks. Pulse 180, temperature 100.8°. The abdomen was enormously distended, very tense and tympanitic. Vaginal and rectal examinations were negative. She was apparently moribund. I found it impossible to pass the rectal tube more than thirteen inches, and there was no escape of flatus. A small aspirating needle was introduced into the transverse colon, through which about one gallon of gas was withdrawn. This was very offensive and burned with a bright yellow flame. There was a marked reduction in the size of the abdomen, and she expressed much relief. The pulse improved, and before the next morning she had passed seven quarts of yeasty fæcal matter. In the differential diagnosis of this case I was of the same opinion as before — that the obstruction was due to a cancerous stricture.

On the evening of February 10th, Dr. Fitz confirmed my diagnosis and advised immediate laparotomy. Littre's operation was performed by an incision in the left groin, parallel to Poupart's ligament. The descending colon, with its longitudinal fibres, presented in the wound. Her condition did not justify any prolonged exploration; I therefore sewed the intestine to the abdominal wall without delay, and opened the gut. Dur-

ing the night she passed a great deal of gas and faecal matter, and on the following morning seemed very comfortable indeed. In the course of a few days the artificial anus became well established, and the abdominal symptoms were relieved. On the fourth day after the operation, the pharynx and fauces became diphtheritic. She was unable to swallow, and died ten days after the operation. At the autopsy I found an annular stricture two feet above the anus, situated in an enormous sigmoid flexure, a little to the right and below the umbilicus. A probe was passed with difficulty through the stricture. The growth was limited to the mucous coat of the intestine, and no evidence of metastasis could be found.

In this case the conditions found at the autopsy were unusually favorable for excision and suture. If the exploration had been made in November, when there was no distention and when her strength was good, the radical operation would probably have been successful. With the unfavorable conditions of February nothing more than a palliative operation was justifiable. The existence of a malignant obstruction was so probable early in the disease that I ought to have urged an exploration at that time.

CASE III. C. B. S., aged sixty-two, dentist. This gentleman I saw April 13, 1890, with Drs. Choate and Johnson, of Salem. Five weeks ago, in apparent good health, he was seized with paroxysms of colicky pains. The bowels, which had been regular, ceased to move, and with the exception of occasional slight watery discharges have been occluded ever since, though one day there were several movements copious enough to empty the large intestine. There have been nausea, vomiting, and hiccough. At one time large quantities of coffee-colored liquid were vomited, and his condition seemed desperate.

Examination. — The general appearance at this time was good, and the strength fair. The abdomen was

distended, but there was no evidence of tumor by external or rectal examination. The diagnosis was malignant stricture of the sigmoid flexure, and operation for relief was advised.

Soon after this visit the general and local conditions improved very much, and the idea of operative interference was abandoned.

On Monday, May 12th, I found that there had been complete obstruction for some time. There had been progressive emaciation and through the thin abdominal walls the outlines of the moving and distended intestinal coils could be seen. In the left side of the abdomen there was a large, tense, and tympanitic mass, evidently the distended bowel just above the stricture, which seemed to be located in the sigmoid flexure.

On Sunday morning, May 18th, I opened the abdomen in the left groin, and fastened the descending colon to the abdominal wound. There was considerable ascites, but nothing abnormal could be felt. I opened the intestine, and there was an immediate discharge of gas and fæces. He recovered speedily from the operation, was very much relieved by it, and said that he was very glad indeed that it had been done. He improved very much in his general health, was able to take large quantities of nourishment, and there was no pain. He died in the summer of 1891, from exhaustion and extension of the disease through the intestines. Before death, with my finger in the artificial opening, I was able to feel the cancerous disease. At the autopsy I found the intestines matted together about the sigmoid flexure, with extensive cancerous infiltration.

The operation of inguinal colotomy, as performed in this case, is very brief, and adds little to the existing dangers. The bowel may be opened at once with but slight chance of peritonitis. The wound is shut off from the peritoneal cavity, not only by the sutures, but by the pressure of the distended coils. So gradual is the evacuation of the colon that some days elapse

before the abdomen becomes flaccid. In the meantime the adhesions are firm and the anus well established. It is surprising, however, to observe that the bowel may be easily separated by the fingers from the abdominal wound, even after a year or more. I have never known such separation to take place accidentally. The occasional disappearance of the obstruction I have observed in malignant cases. In the present instance, a year after the operation, there were large movements by rectum. In other cases I have known the abdominal wound to close entirely, and the dejections to take place through the natural channel. This phenomenon is undoubtedly due to ulceration and disappearance of the cancerous ring.

CASE IV. Mrs. A. F. C., age seventy, I saw at Norwell, with Drs. Osgood and Dudley, on October 26, 1891. Family history good. She had always been well till eleven days before, since when there has been complete stoppage of the bowels. There has been no movement with cathartics. The abdomen has been distended and tympanitic during this time and no physical signs have been detected. No constitutional symptoms have been present. There has been constant regurgitation without odor. The patient described the onset of symptoms as a "rumbling and rattling," with pain and inability to pass anything whatever. During the summer she had had a similar experience, which lasted but a short time, which she thought due to raspberries, the first operation after this attack containing many seeds. After that the movements were not loose. The pain since a week ago last Tuesday, she said, had been somewhat worse, and had been due mainly to rattling and rumbling. Before this attack the bowels were the same as usual. She had not been running down hill at all, and there was nothing noticeable about her general health. The patient's friends thought that she had been looking as well as usual. She herself thought she was better than during the previous sum-

mer. There had been no pain whatever until the Tuesday ten days before my visit. At times she had been troubled more or less with wind in the bowels. Now her pain extends across the abdomen in the region of the umbilicus. She has passed flatus continuously.

The general appearance was good, with pulse full and strong at 96, and temperature 98.4°. The abdomen was considerably distended, and peristalsis could be seen through the abdominal wall, accompanied by a good deal of noise. On rectal examination a mass could be felt in the region of the fundus of the uterus, somewhat irregular, hard and slightly nodular.

In this case it seemed to me that there was probably a malignant stricture of the sigmoid flexure. I advised operation, explaining the nature of an artificial anus. The friends decided not to subject her to this danger, and she died a short time afterwards. There was no autopsy.

CASE V. Mr. F. P. H., age thirty-nine, I saw at Billerica on December 8, 1890, with Drs. Fox, Carolin, and Lane. He had had dysentery at the age of three, from which he recovered, and was well till the age of fourteen, when he had a similar attack. Since that time he has been troubled more or less with loose dejections and occasional hæmorrhages. At times there has been pain in the left hypogastric region, with occasional distention and tenderness. In the latter part of July, while under the care of Dr. Lane, he had a very severe hæmorrhage, after which he was comfortable. He had some pain, which was excessive, in the right iliac fossa, later changing to the left. After this attack of hæmorrhage it was nineteen days before he had any movement of the bowels. The character of the discharges has varied; at times they have been covered with mucus and tinged with blood. Of late the bowels have become very much distended, and the outlines of the colon can be traced through the abdominal walls. The stools have been lumpy and small,

and there has been great difficulty in passing gas. A week ago vomiting began, and has been continuous ever since. The temperature at first was subnormal. Later it went up to 100° and 101° . The pulse has been 130, small and thready. Vomiting has not been faecal. There had been no loss of weight up to the present attack. An uncle died of cancer of the stomach.

Examination showed an emaciated man with the abdomen generally distended. No hard masses could be felt. Rectal examination was negative.

The abdomen was opened on the left side, and the descending colon exposed and fastened to the edges of the wound. Nothing could be felt by digital exploration. The bowel was opened immediately, and about four quarts of churned up faecal matter were discharged. During his illness there had been nothing to call attention to the lungs. He died some time during the week following the operation, apparently from exhaustion. There was no peritonitis. There was a large empyema, which had never been suspected, and a cancerous stricture of the lower part of the sigmoid flexure near the rectum. The interesting feature in this case, and the complication which undoubtedly caused death, was the existence of a large collection of pus in the right pleural cavity. In a detailed history taken from the attending physician, the friends and the patient, there was nothing suggesting this condition.

CASE VI. Dr. J. C. S., age sixty-four. Examined Wednesday, August 20, 1890. This gentleman had been under observation for some time with bowel trouble. He was taken with complete obstruction on the Friday prior to the examination. There had been previous to this time some gastric disturbance, but he had never had any serious abdominal symptoms, though he might have had colicky sensations from time to time. Nothing had been observed about the nature of the movements. At times he would have attacks of distention and vomiting, which would last a few days and

then disappear. The present attack, which began on Friday, was attended by vomiting, which has lasted at intervals ever since. The examination of the abdomen revealed nothing beyond the fact that it was distended. Rectal examination was negative. I believed there was intestinal obstruction, and proposed operation. Dr. Cutler saw this gentleman with me, and made a diagnosis of complete obstruction due to malignant disease. The patient, who was a physician, declined to have any operative interference, and died some weeks later under the influence of opiates.

CASE VII. Philip W., age sixty-nine, a patient of Dr. St. Clair O'Brien, of Rockport, had been apparently well up to a few weeks before my visit, Tuesday, October 11, 1892. Six weeks before, while in apparent health, he was seized with pain in the bowels, not referred to any particular spot. This attack quickly subsided, and he was as well as usual. Two weeks before, after several days' constipation, for which he had just taken an enema, he was seized with pain in the abdomen. The attack resembled the previous one, but the pain did not subside. Efforts to relieve the distended bowels by cathartics, enemata, and the rectal tube were unavailing. On Friday Dr. Garland, of Gloucester, in consultation advised operation for an obstruction which he thought was malignant and located in the cœcum.

I found the abdomen tightly distended, painful and tender. There was marked emaciation, and the general appearance was alarming. There was no physical evidence of disease by external or rectal examination. The character, location, and direction of the pain was indefinite; and I found it impossible to localize the point of obstruction. No information could be obtained by enemata or rectal tube. I therefore determined first to explore by the median line below the umbilicus. The disease was immediately recognized in the lower part of the sigmoid flexure. It was very

extensive, and involved the adjacent coils. The mass was fixed and adherent at the posterior brim of the pelvis. I closed the median wound, and opened the descending colon through an incision an inch and a half long. Large quantities of fæcal matter of the usual consistency escaped, and great relief followed. The median incision healed immediately, the artificial anus worked well, and he soon began to have natural dejections. A painless illness was followed by death from exhaustion some months later. The preliminary median exploration did not add much to the danger in this case, and the information gained was of the greatest value in facilitating the subsequent manipulations.

In the formation of an artificial anus a long incision is undesirable, not only because coaptation to the skin is more difficult, but there is greater liability to hernia. I have seen complete eversion of the colon after inguinal colotomy. In this unusual condition the bowel resembles the prolapsed coil seen in herniotomies, except that the mucous coat only is visible. In the case of Dr. C. B. S., this complication arose, and was overcome with great difficulty.

CASE VIII. Mr. A. G. T., of Boston, was referred to me by Dr. Cutler on September 1, 1892. About three months before, while in Europe, he had noticed for the first time an unusual irregularity in the movements of the bowels. There was a change in the number and order of evacuations, as well as in their consistency. Instead of one large dejection in the morning, there would be several, at intervals of fifteen minutes, and others during the day and evening. There was no discomfort at that time, but after about a month he began to have a little pain and diarrhœa. These symptoms were progressive, but excited no apprehension. Dr. Cutler first saw the case the last week in August, and immediately suspected a mechanical intestinal obstruction. There was a general diffused resistance in the abdomen, suggesting a fæcal accumulation. Small

doses of opium produced free evacuations, after which a resistant mass could be felt low down in the left. At a certain point, indicating the right iliac region, he felt pain when the intestinal contents were passing. After having this pain an hour or two, he would have a movement, and would feel well for a number of hours. At times the dejections were solid, and about the size of the finger. The urine contained a large amount of indican. There had been some loss of flesh. Dr. Cutler advised exploration to remove, if possible, the cause of the obstruction, and kindly referred the case to me. His opinion was that there was malignant disease involving the intestine and producing partial obstruction. I saw the case several times, but was unable to find any physical evidence of tumor.

For three days before the operation, which was performed on September 10th, there was no passage of gas or fæces. The abdomen became considerably distended, and the patient distressed and uncomfortable. I had determined to explore, and if possible to excise the disease, or at least to establish an anastomosis between the intestinal coils, so as to prevent the annoyance of a fæcal fistula. A median incision was selected, not only because it seemed more probable that the disease would be found there, but because a general preliminary exploration would be more satisfactory and subsequent procedures more intelligent. The distended coil immediately above the disease was injected, adherent, and partially gangrenous. The intestinal contents had escaped through an opening just above the constriction, which was located in the sigmoid flexure, and there was an incipient peritonitis. After washing out the abdominal cavity it was found impossible to close the wound in the intestine, or to bring the bowel to the abdominal wall. The disease had extended and infiltrated several coils of small intestine, so that all were matted together, and it was impossible to make an anastomosis or to resect. To the many uses of

gauze already employed in abdominal operations, I added another which was of great service in preventing further extravasation, and which I believe would have saved the patient if death had not taken place from other causes. Long strips of iodoform gauze were arranged about the opening in the bowel in circular folds by which the rest of the abdominal cavity was effectually barricaded. After being satisfactorily applied, the gangrenous opening was situated at the bottom of a well of gauze one inch in diameter, through which gas and fæcal matter could escape freely. The external wound was left entirely open. The patient rallied very well from the operation, and his condition during the next few days was quite encouraging. Vomiting ceased, and there were abundant discharges from the wound; the abdomen became soft, and the local conditions seemed very favorable; the constitutional symptoms abated, and I confidently expected that he would survive some months. In a few days, however, the intellect became cloudy, acute delirium ensued, and he died at the end of a week.

The wall of gauze was perfectly clean and unstained except in that portion next the intestinal opening. The general cavity of the abdomen had been fully protected and the external wound was covered with healthy granulations. When the pathological condition first became evident, the hopelessness of this case seemed so clear, and all known methods of surgical treatment so inapplicable, that at first I was inclined to close the abdominal wound and abandon all attempts to prolong life. The method of applying gauze which suggested itself in this case, and the perfect barrier which it opposed to further extravasation, has added a new and important resource in the treatment of the unusual complication met with in this case.

In addition to the above cases I have operated in several with similar history and pathological cause. Where the disease has been located in the ileo-cæcal

region the tumor is generally perceptible, and can easily be recognized on deep pressure. One case of this kind died after futile attempts had been made to bring the open bowel to the wound. In three other cases in which, however, there were no obstruction-symptoms, efforts to excise the disease were abandoned. I have recently seen the case of a man of twenty-seven dying with symptoms of complete obstruction (a patient of Dr. Snow, of Newburyport), where death resulted from cancerous stricture of the ascending colon near the hepatic flexure, with rupture of the distended cœcum, fæcal extravasation, and collapse.

I have not considered in detail those cases of chronic obstruction due to cancer of the rectum, because the only question that arises in this condition is the formation of an artificial anus. Left inguinal colotomy is much to be preferred to the lumbar operation for many reasons. It is rapid, safe, and sure, and its situation easily accessible. Lumbar colotomy is at times a formidable operation requiring a long incision, occasionally attended by much hæmorrhage; its situation makes personal care and cleanliness difficult, and I have known serious errors to be made in opening the bowel. The occasional presence of a mesentery makes it sometimes necessary even by this route to open the peritoneum. It is nearly ten years since I have performed or seen the operation of lumbar colotomy, and I believe it to be no longer worthy of consideration under ordinary circumstances.

Inguinal colotomy at times is desirable in the ulceration of rectal cancer, even if complete obstruction does not exist. Last winter, in a case of this kind in Holyoke (a patient of Dr. Cox), the suffering was chiefly due to the passage of fæcal matter over the extensively diseased surface of the rectum. A rapid colotomy was followed by relief to this painful condition. In another case obstruction was due to a chronic intussusception. Invaginated bowel could be felt in

the rectum, and had existed an uncertain time. This patient, an old man, walked into the out-patient department of the hospital complaining of his bowels. Rectal examination revealed the above condition. He was completely relieved by inguinal colotomy, after futile efforts had been made to reduce the invagination. The patient left the hospital without permission shortly after, and I am unable to give the subsequent history.

In most cases of chronic obstruction where the bowel has been attached to the abdominal wall, it is best to open at once. There is no additional danger, as far as my observation goes, and the demanded relief is immediately given. Adhesion-formation is not necessary to prevent peritonitis; a few stitches, with the distention-pressure, keep the bowel in position and prevent peritoneal infection. The joint need never be perfect enough to prevent the escape of fluid between the sutures. In one case attended by much ascites I observed fluid escaping freely between the stitches on vomiting and coughing. No bad results followed in this case, though the bowel was opened immediately. I have observed also that the escape of a small amount of fæcal matter and the soiling of the peritoneum thereby is not attended by bad results after free irrigation. Extensive extravasations are frequently followed by recovery after the careful cleansing of the abdominal cavity. I have observed the truth of this statement in cases of intestinal rupture, gangrenous hernia, intestinal resection, and in malignant disease.

Although most cases of chronic obstruction depend upon malignant stricture, occasionally the cause is from mechanical pressure. I published a case of this kind last year in the JOURNAL — that of Mrs. Julia L. The obstruction was due to adhesions between the lower part of the sigmoid flexure and the uterus, after separating which it was necessary to make an artificial anus. The relief afforded by opening the sigmoid flexure was followed by patency of the rectum and normal dis-

charges. It was interesting in this connection to observe the closure of the abdominal opening which followed as soon as the bowel resumed its functions. The obstruction never returned, and this patient has been in very good health ever since. In other cases of intestinal fistulæ I have observed the same favorable course. A more unpleasant and annoying symptom than a fæcal fistula can hardly be imagined. As I have remarked elsewhere, this condition occurs almost always after operations upon the appendix; but they disappear, as a rule, spontaneously. This fact should encourage those who feel annoyed by the occasional presence of a fæcal discharge in abdominal operations in general. I have observed from day to day the successful efforts of nature to close these openings. Unless there is some good reason, an intestinal fistula will always take care of itself. Such results cannot be expected, of course, in cases of intestinal obstruction, nor should it be looked for where the opening is very large or where for any reason natural repair cannot take place, as, for instance, in cases of extensive eversion of the intestinal mucous membrane. Three or four months is a reasonable time to allow for the spontaneous closure of these openings. If at the end of that time there is a considerable discharge, or if there is not a distinct improvement from week to week, the bowel should be loosened up in all directions and the edges of the opening brought together and closed in the method of Lembert. It is not my intention to discuss operations for the closure of intestinal fistulæ in this connection. I would simply repeat that they are very successful and gratifying and do not seem to be attended with great danger.

At times, where there are symptoms of chronic obstruction supposed to be due to malignant disease, such symptoms are explained by the pressure of inflammatory masses or of benign growths. This is another reason for exploration in cases of doubt. I recall several such conditions, in which death was found to

be due to a cause which might easily have been removed. On the other hand, I have in one case explored a distended abdomen without finding any cause whatever for obstruction. In this case a diagnosis had been made by one of my medical colleagues at the hospital, of chronic obstruction. The cause was not made out, and the condition was extremely doubtful. It seemed best, however, to explore. I examined the intestines from the jejunum to the sigmoid flexure. No pathological condition whatever was found and the wound was closed. In a few days natural operations took place, and the woman has been well ever since. In another case recently examined (a patient of Dr. Bragdon, of Milton), the symptoms of a second attack of chronic obstruction had existed some two weeks and a half. Operation was not seriously considered because the urgent symptoms of acute obstruction were not present, and the woman's condition was encouraging. In the right iliac fossa there was a boggy mass which was strongly suggestive of faecal impaction. A few days later there was a copious discharge from the bowels, and the patient has been well ever since. She had always been of a constipated habit, and thought nothing of going a week or more without movement of the bowels. One must expect occasionally to make an unnecessary exploration, unless he delays his investigations long enough to be positively certain that the obstruction is not going to be relieved spontaneously. If one waits in every case until the distention is excessive, he operates under the greatest difficulties and disadvantages. It is impossible thoroughly to explore the abdomen or to resort to any of the radical measures for relief when the intestines are much distended. As I have already remarked, it is very unsatisfactory and very difficult to collapse the intestines after they have been exposed. If, therefore, it is possible to make a diagnosis of chronic obstruction before it has become complete, and while the bowels are still collapsed, such

an opportunity should be seized for abdominal section. At such time the operation may be performed with great ease and with much better chance of success.

In conclusion, I would say that in chronic intestinal obstruction, where its cause is not obvious :

I. Exploration is demanded, first, as a curative procedure, because a pathological condition may be found admitting of relief; and, secondly, as a palliative measure, because endurable or even enjoyable life may be prolonged and suffering relieved.

II. In doubtful cases median exploration should first be performed.

III. In localized cancer, intestinal excision and suture are justifiable; if this is impracticable, intestinal anastomosis should be resorted to.

IV. If neither excision nor anastomosis are feasible inguinal colotomy should be performed — right or left, according to the situation of the stricture.

V. If none of these methods can be applied, gauze barriers should be placed about the disease, and the bowel opened in the manner described.

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